

# CPCI850 - Advanced CPCI-X Bus Analyzer / Exerciser

## Analyzer

- Capture Bus Activity
- Event Recognition
- Complex Triggering and Filtering
- Time Stamping and Measurement
- State and Waveform Displays
- Power Zoom (533 Mhz)

## Exerciser

- Memory, I/O, Config Transfers
- Generate Test Patterns
- Configuration Scanning
- Control Address / Data Width
- Read / Write to a File

## Stimulus

- Fault Injection
- Control Bus Timing
- Hardware Simulation
- Pattern Generation
- Drive any Signal

## Target Memory

- Windowed Bus Memory
- Split, Retry, Disconnect Response

## Protocol Violation Checker

- Detects >50 Protocol Violations
- Listed in State/Waveform Display
- Used as Trigger / Filter

## Timing Violation Checker

- Checks Unstable Signals
- Setup and Hold Verification
- Glitch Detection

## Performance Analysis

- Bus Utilization
- Transfer Rate
- Latency
- Burst Distribution
- Statistics

## Compliance Testing

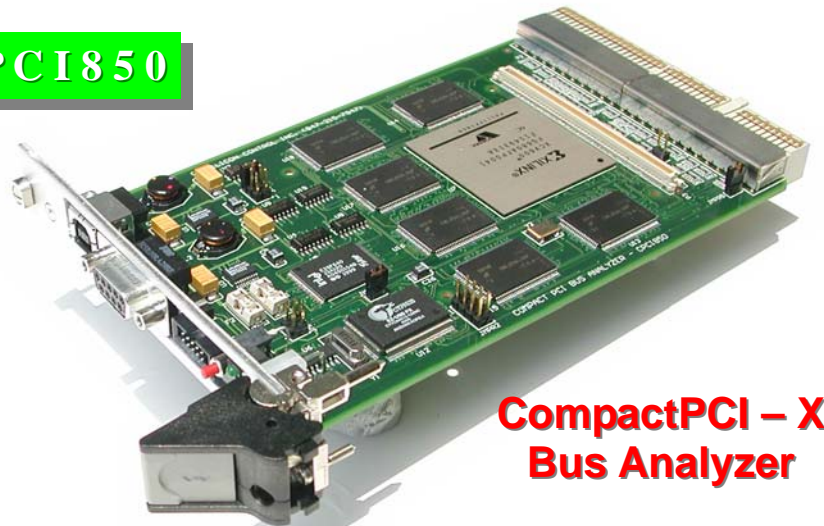
- PCISIG Checklist

## Windows and API Interface

- Analyzelt Windows Software
- User programmable API

## Expansion Connector

CPCI850



**CompactPCI - X  
Bus Analyzer**

*The CPCI850 Analyzer operates in 32 and 64 bit CompactPCI systems running at 0 to 133 Mhz. Over 100 protocol and timing violations are automatically checked and correlated with captured bus activity. System performance measurements include Bus Utilization, Transfer Rates, Latency, and Statistics.*

**Analyze It! Windows Software**

CC	SAMPLE	COMMAND	ADDRESS32	DATA32	TIME(17:0)	DELTA	BUS DOCTOR	
AD	-3			33	40ns		FRAME assert...	0000
I	-2	I/O Wr	00000061	20	227ns			0000
F	-1				10ns			0000
C	0	I/O Rd	00000064		463ns			0000
S	1			1C	53ns			0000
S	2	I/O Wr	00000064		120ns			0000
S	3			AE	94ns			0000
S	4	Int Ack	00000000		2.751us		FRAME assert...	0000
S	5				11ns			0000
S	6	I/O Rd	00000078		643ns			0000
S	7			80	53ns			0000
S	8	I/O Wr	00000020		351ns	60.25us		0000
S	9			20	10ns			0000
S	10	Int Ack	00000000		59.17us			0000
S	11			08	51ns			0000
S	12	I/O Rd	00000064		981ns			0000
S	13			1D	53ns			0000

Silicon Control introduces the ultimate analyzer and exerciser for CompactPCI systems. This 3rd generation CPCI analyzer combines high performance hardware with a sophisticated and intuitive software interface. The result is a powerful diagnostic tool for bus analysis all on a single plug-in card.



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**THE LEADERS IN BUS ANALYSIS**

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# CPCI850 SPECIFICATIONS

## General Specifications

PCI Compliance:	PCI 2.2 , PCI-X 1.0 Compliant
Bus Size:	64 or 32 bit
Bus Signal Levels:	5V or 3.3V

## Trace Specifications

Trace Memory:	
CPCI850-1	128K by 144 bits
CPCI850-2	256K by 144 bits
CPCI850-3	512K by 144 bits
CPCI850-4	1M by 144 bits
CPCI850-5	2M by 144 bits
Sampling Rate:	0 to 133 Mhz
High speed power zoom	533 Mhz
Sampling Modes:	System Clock System Clock w/ Address/Data System Clock w/ Transfers On board precision Oscillator (7.5ns to 15us)
Sampled Signals:	AD[63:0], C/BE[7:0], FRAME, DEVSEL, TRDY, IRDY, PAR, REQ, GNT, RST, LOCK, CLK, INTA, INTB, INTC, INTD, PAR64, PERR, SERR, REQ64, ACK64, TDO, TDI, TCK, TMS, TRST, SDONE, SBO, EXT[7:0]
External Inputs:	8 Front Panel Trace/Trigger
External Outputs:	1 Programmable Trigger Output
Triggers:	8 Trigger Conditions each Specifying 100 CPCI Signals, 8 External Triggers and Anomaly
Trigger Types:	Single Condition Logical Combination 16 Level Sequencer
Trigger Positions:	0%, 25%, 50%, 75%, 100%
Occurrence Counters:	16 hardware counters 20 bits
Event Counters:	16 hardware counters 20 bits
Time Tag:	7.5 ns to 60 sec.
<b>Exerciser Specifications</b>	
Initiator Bandwidth:	1056 MB/s rate
Initiator Bus Width:	64 or 32 bit
Initiator Transfers:	Memory, I/O, Configuration

## Target Specifications

Target Memory:	
CPCI850-1	1 MB
CPCI850-2	2 MB
CPCI850-3	4 MB
CPCI850-4	8 MB
CPCI850-5	16 MB

Target Bandwidth: 1056 MB/s burst rate

Target Bus Width: 64 or 32 bit

## Front Panel Interfaces

RS232 Port:	DB9 connector, 110 to 115K Baud (cable included)
USB Port:	Series B connector, 12 MB/s (cable included)
Indicators:	GO LED, User LED
Pushbutton:	Reset Analyzer or System
External Power:	2 Conductor front panel (cable included)
Trigger:	10 pin socket (8 in, 1 out, 1 ground) (cable included)
Fuses:	Main power and External power

## Power Requirements

Operating—5V at 3 Amps max  
Standby—5V at 1 Amp max

## Dimensions

CPCI850—3U Eurocard  
3U and 6U Front Panel Included

## Ordering Information

### CompactPCI Analyzers

CPCI850-1	128K Trace Buffer 1 MB Target Memory
CPCI850-2	256K Trace Buffer 2 MB Target Memory
CPCI850-3	512K Trace Buffer 4 MB Target Memory
CPCI850-4	1M Trace Buffer 8 MB Target Memory
CPCI850-5	2M Trace Buffer 16 MB Target Memory



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